

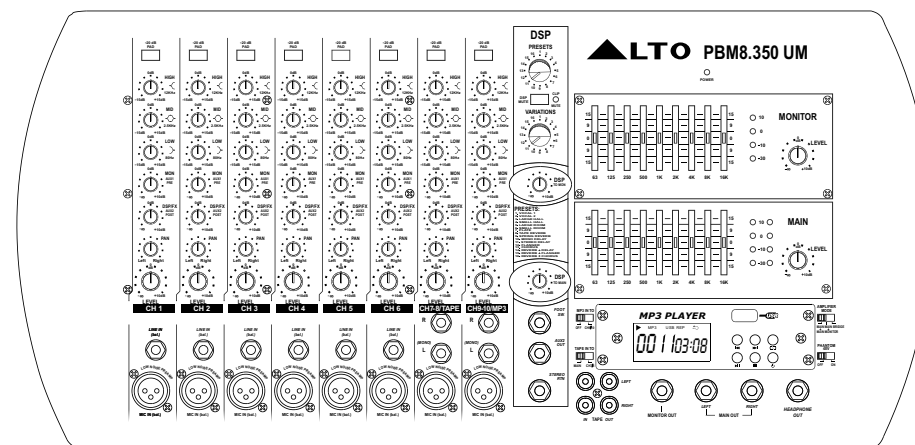


User's Manual

PBM8.350 UM

8-channel

Stereo Powered Mixer with DSP and MP3 player



SEIKAKU TECHNICAL GROUP LIMITED
NO. 1, Lane 17, Sec. 2, Han Shi West Road, Taichung 40151, Taiwan
www.altoproaudio.com Tel: 886-4-22313737
email: info@altoproaudio.com Fax: 886-4-22346757

All rights reserved to ALTO. All features and content might be changed without prior notice. Any photocopy, translation, or reproduction of part of this manual without written permission is forbidden. Copyright ©2008 Seikaku Group


www.altoproaudio.com
Version 1.0 June. 2009


English

IMPORTANT SAFETY INSTRUCTION



TO REDUCE THE RISK OF ELECTRIC SHOCK PLEASE DO NOT REMOVE THE COVER OR THE BACK PANEL OF THIS EQUIPMENT. THERE ARE NO PARTS NEEDED BY USER INSIDE THE EQUIPMENT. FOR SERVICE, PLEASE CONTACT QUALIFIED SERVICE CENTERS.

 This symbol, wherever used, alerts you to the presence of un-insulated and dangerous voltages within the product enclosure. These are voltages that may be sufficient to constitute the risk of electric shock or death.

 This symbol, wherever used, alerts you to important operating and maintenance instructions. Please read.

⊕ Protective Ground Terminal
~ AC mains (Alternating Current)
⚡ Hazardous Live Terminal

ON: Denotes the product is turned on.

OFF: Denotes the product is turned off.

CAUTION

Describes precautions that should be observed to prevent damage to the product.

1. Read this Manual carefully before operation.

2. Keep this Manual in a safe place.

3. Be aware of all warnings reported with this symbol.

4. Keep this Equipment away from water and moisture.

5. Clean it only with dry cloth. Do not use solvent or other chemicals.

6. Do not damp or cover any cooling opening. Install the equipment only in accordance with the Manufacturer's instructions.

7. Power Cords are designed for your safety. Do not remove Ground connections! If the plug does not fit your AC outlet, seek advice from a qualified electrician. Protect the power cord and plug from any physical stress to avoid risk of electric shock. Do not place heavy objects on the power cord. This could cause electric shock or fire.

8. Unplug this equipment when unused for long periods of time or during a storm.

9. Refer all service to qualified service personnel only. Do not perform any servicing other than those instructions contained within the User's Manual.

10. To prevent fire and damage to the product, use only the recommended fuse type as indicated in this manual. Do not short-circuit the fuse holder. Before replacing the fuse, make sure that the product is OFF and disconnected from the AC outlet.

WARNING

To reduce the risk of electric shock and fire, do not expose this equipment to moisture or rain.



Dispose of this product should not be placed in municipal waste and should be separate collection.

11. Move this Equipment only with a cart, stand, tripod, or bracket, specified by the manufacturer, or sold with the Equipment. When a cart is used, use caution when moving the cart / equipment combination to avoid possible injury from tip-over.



12. Permanent hearing loss may be caused by exposure to \ extremely high noise levels. The US. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible exposure to noise level.

These are shown in the following chart:

HOURS X DAY	SPL	EXAMPLE
8	90	Small gig
6	92	train
4	95	Subway train
3	97	High level desktop monitors
2	100	Classic music concert
1,5	102	
1	105	
0,5	110	
0,25 or less	115	Rock concert

According to OSHA, an exposure to high SPL in excess of these limits may result in the loss of heat. To avoid the potential damage of heat, it is recommended that Personnel exposed to equipment capable of generating high SPL use hearing protection while such equipment is under operation.

The apparatus shall be connected to a mains socket outlet with a protective earthing connection.

The mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

8.WARRANTY

1. WARRANTY REGISTRATION CARD

To obtain Warranty Service, the buyer should first fill out and return the enclosed Warranty Registration Card within 10 days of the Purchase Date. All the information presented in this Warranty Registration Card gives the manufacturer a better understanding of the sales status, so as to purport a more effective and efficient after-sales warranty service. Please fill out all the information carefully and genuinely, miswriting or absence of this card will void your warranty service.

2. RETURN NOTICE

- 2.1 In case of return for any warranty service, please make sure that the product is well packed in its original shipping carton, and it can protect your unit from any other extra damage.
- 2.2 Please provide a copy of your sales receipt or other proof of purchase with the returned machine, and give detail
- 2.3 A brief description of the defect will be appreciated.
- 2.4 Please prepay all the costs involved in the return shipping, handling and insurance.

3. TERMS AND CONDITIONS

- 3.1 ▲LTO warrants that this product will be free from any defects in materials and/or workmanship for a period of 1 year from the purchase date if you have completed the Warranty Registration Card in time.
- 3.2 The warranty service is only available to the original consumer, who purchased this product directly from the retail dealer, and it can not be transferred.
- 3.3 During the warranty service, ▲LTO may repair or replace this product at its own option at no charge to you for parts or for labor in accordance with the right side of this limited warranty.
- 3.4 This warranty does not apply to the damages to this product that occurred as the following conditions:
 - Instead of operating in accordance with the user's manual thoroughly, any abuse or misuse of this product.
 - Normal tear and wear.
 - The product has been altered or modified in any way.
 - Damage which may have been caused either directly or indirectly by another
- 3.5 In no event shall ▲LTO be liable for any incidental or consequential damages. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.
- 3.6 This warranty gives you the specific rights, and these rights are compatible with the state laws, you may also have other statutory rights that may vary from state to state.

PREFACE

Dear customer

Thank you for choosing the ▲LTO PBM8.350 UM 8-channel stereo powered mixer with DSP, which is the result of our ▲LTO AUDIO TEAM's endeavours.

For the ▲LTO AUDIO TEAM, music and audio are more than a profession, it is a passion and an obsession!

We have, in fact, been designing professional audio products for a number of years in cooperation with many of the world's major brands.

The ▲LTO line represents unparalleled analogue and digital products made by musician, for musicians. With our design centres in Italy, Netherlands, and United Kingdom we provide you with world-class designs, while our software development teams continue to develop an impressive range of audio specific algorithms.

By purchasing our ▲LTO products you become the most important member of our ▲LTO AUDIO TEAM. We would like to share with you our passion for what we design and invite you to make suggestions, which will aid us in developing future products for you. We guarantee you our commitment for quality, continual research and development, and of course the best prices.

The ▲LTO PBM8.350 UM is extremely flexible, ultra-low noise 8-channel stereo powered mixer with DSP and MP3 player USB port, the unit is configured with six mono MIC/line and two stereo input channels, each input is equipped with a variety of key features including a 3-band equalizer, two aux sends and pan control etc. Besides, the versatile DSP with 256 presets and powerful digital power amplifier will fit your needs, thanks to 2 x 350W amps section. Seeing is believing, let's meet the ▲LTO PBM8.350 UM.

We would like to thank all the people who made the ▲LTO PBM8.350 UM a reality, especially to our designers and ▲LTO staff. It is their passion for music and professional audio that has made it possible for us to offer you, our most important team member, our continued support.

Thank you very much

▲LTO AUDIO TEAM

IN THIS MANUAL

1. INTRODUCTION.....	2
2. FEATURES.....	2
3. QUICK START.....	4
4. CONTROL ELEMENTS.....	6
4.1 MONO/STEREO Input Channel Section.....	6
4.2 MASTER SECTION Control.....	7
4.3 MASTER SECTION INPUT and OUTPUT Jacks.....	9
4.4 DSP Section.....	11
4.5 Rear Panel.....	12
4.6 MP3 Section.....	13
5. PRESET LIST.....	15
6. INSTALLATION AND CONNECTION	16
6.1 Audio Connections.....	16
6.2 Speaker Connections.....	18
6.3 Possible System Connection Mode for Live Sound Application.....	20
7. TECHNICAL SPECIFICATIONS.....	21
8. WARRANTY.....	23

7. TECHNICAL SPECIFICATIONS

Main Mix Section			
	Main,Aux,Monitor,Phones output	0dBu(+/-2dBu) Unbalanced, 1/4" jacks	
	Phones output	6dBu(+/-2dBu) Unbalanced, 1/4" jacks	
	Max output	+22dBu Balanced/Unbalanced, 1/4" jacks	
	Main, Monitor EQ	+/-15dB @ 9 bands (63,125,250,500,1K,2K,4K,8K,16K Hz)	
	Noise (Bus noise)	≤ -70dB @ 20Hz~22KHz(channel & MAIN level at 0dB, other at minimum, DSP mute)	
MP3 Section			
	USB HOST	Builds in the USB FULL speed(12Mbps)HOST control function	
		Supports the USB mass storage class	
	FAT analysis	Supports FAT 16 and FAT 32, Supports VFAT (long file name), Supports multi-partion up to 1	
	MP3 DECODE	Supports sample rates 8KHz, 32KHz, 11.025KHz, 22.05KHz, 44.1KHz, 12KHz, 24KHz, and 48KHz.	
		Supports bit rate 8 to 320 kbps and VBR(Variable Bit Rate) except free format	
	Electric Specification	Frequency Response	20Hz~20KHz
		Output level	0dB
		S/N Ratio	> 90 dB
		Distortion(at 1 KHz)	<0.05%
Protection			
	Thermal protection	Over-temperature power limiting	
		Thermal shutdown	
		Temperature controlled 12V DC output	
	Short protection	Short-circuit protection	
		Overload output protection	
	Voltage protection	Over voltage protection	
		DC offset shutdown	
Static Power Consumption			
	No Output power state at 230V	≤36W	
Power section(700W mode)			
	Power continuous 1KHz, THD1%	2*330W @ 4ohm	
		2*180W @ 8ohm	
	Power continuous 1KHz, THD1%	2*400W @ 4ohm	
		2*200W @ 8ohm	
	Bridged	660W @ 8ohm	
Power supply			
	Main voltage	100 - 120VAC ~ 60Hz	
		220 - 240VAC ~ 50Hz	
		100 ~ 120V : T10A 250V	
		220 ~ 240V : T5A 250V	
Physical			
	Dimension (WxDxH)	550mmx220mmx310mm	
		(8.66"x12.20"x21.65")	
	Weight	Net : 7.8kg(17.20lb)	

7. TECHNICAL SPECIFICATIONS

Mono input channels		
	Microphone input	electronically balanced, discrete input configuration
	Frequency response	20Hz to 50kHz, +/- 3dB
	Distortion (THD & N)	0.01% at 1kHz
	Sensitivity	-40dBu
	SNR (Signal to Noise Ratio)	≥ 92dB
	PAD	-20dB
	Phantom power	+48V with switch control
	Line input	Electronically balanced
	Frequency response	20Hz to 50kHz, +/- 3dB
	Distortion (THD & N)	0.01% at 1kHz
	Sensitivity	-20dBu
Stereo input channels		
	Microphone input	electronically balanced, discrete input configuration
	Frequency response	20Hz to 50kHz, +/- 3dB
	Distortion (THD & N)	0.01% at 1kHz
	Sensitivity	-40dBu
	SNR (Signal to Noise Ratio)	≥ 92dB
	PAD	-20dB
	Phantom power	+48V with switch control
	Line input	Unbalanced
	Frequency response	20Hz to 50 kHz, +/- 3dB
	Distortion (THD & N)	0.01% at 1kHz
	Sensitivity	-20dBu
Impedances		
	Microphone input	1.4kohm
	All other inputs	10kohm or greater
	Tape out	1kohm
	All other output	120ohm
Equalization		
	High	+/- 15dB @ 12kHz(mono) +/- 15dB @ 12kHz(stereo)
	Mid	+/- 12dB @ 2.5kHz(mono) +/- 12dB @ 2.5kHz(stereo)
	Low	+/- 15dB @ 80kHz(mono) +/- 15dB @ 80kHz(stereo)
DSP Section		
	A/D and D/A converters	24 bit
	DSP resolution	24 bit
	Type of effects	Hall, Room, Vocal & Plate REVERBS
		Mono & Stereo DELAY (max DELAY TIME 650ms)
		Chorus, Flanger & Reverb MODULATIONS
		REVERB+DELAY, REVERB+CHORUS,
		REVERB+FLANGER combinations
	Presets	256
	Controls	16-position PRESET Selector
		16-position VARIATION selector
		CLIP LED
		MUTE SWITCH with LED indicator

1. INTRODUCTION

Thank you very much for expressing your confidence in ▲LTO products by purchasing ▲LTO PBM8.350 UM 8-channel stereo powered mixer with DSP and MP3 player. The PBM8.350 UM is a professional, powerful mixer, which provides the state of the art digital amplifier technology specifically. You will get a smooth, accurate, very natural and open sound from this apparatus, it is really ideal for gigs, recording and fixed PA installations.

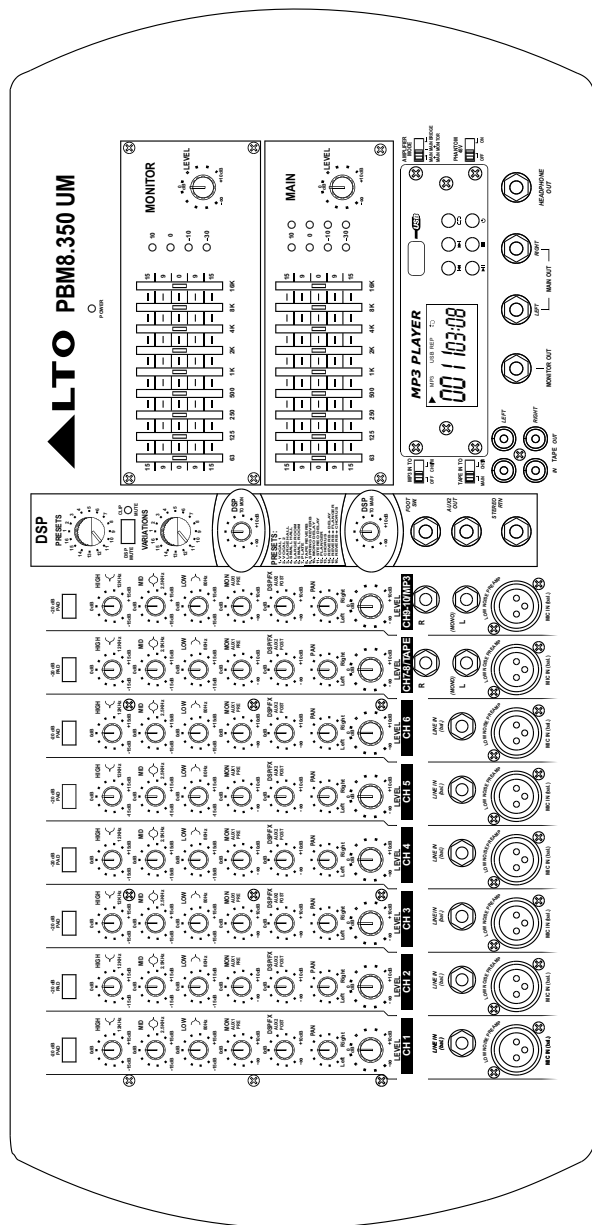
The PBM8.350 UM 8-channel stereo powered mixer with DSP and MP3 player is packed with some key features. For example: there are six MIC/line inputs which provided with ultra low noise microphone pre-amplifiers and phantom power at +48V plus two stereo inputs, each channel features a 3-band equalizer, two aux sends, pan and level control. The master section includes stereo return, 2-track input/output for playing back stereo devices and to record your mix, handy equalizers for main mix and monitor, 256 position multieffect and USB port which can be connected to U disk to play files of MP3 format and so on.

Though your PBM8.350 UM is very easy to operate, we strongly recommend you to go through each section of this manual carefully, in this way you will get the best out of your PBM8.350 UM.

2. FEATURES

The PBM8.350 UM 8-channel stereo powered mixer with DSP and MP3 player USB port is designed for professional application. It provides the following features:

- ▲ Digital amplifier technology, offering high power and a very dynamic sound
- ▲ 9-band graphic EQ for MAIN / MONITOR
- ▲ 8 MIC/line input channels with gold plated XLRs and balanced LINE inputs
- ▲ 2 Stereo input channels with balanced TRS jacks
- ▲ Ultra-low noise discrete MIC preamps with +48V phantom power
- ▲ Extremely high headroom offering more dynamic range
- ▲ 3-band equlizer on input channels
- ▲ Each input channel with -20dB PAD, PAN and level control
- ▲ 2 AUX sends for built-in or external effects, on-stage monitor mix, or headphone mixing
- ▲ 256 position multieffect
- ▲ 2-track recording IN/OUT (phono)
- ▲ Headphone output
- ▲ 2x350 watt RMS amplifiers (For PBM8.350 UM)
- ▲ Output connector: 6.3 ϕ jack + 4 way-speakon
- ▲ USB port for MP3 player



6. INSTALLATION AND CONNECTION

6.3 System Connection for Live Sound Application

Reading the "QUICK START" chapter and previous setting procedures, you will know how to start your system quickly and adjust the channel setting. Following page picture shows the PBM8.350 UM standard connections for a live set.

Connect three or more microphones to mono MIC channels (1~3); connect keyboards or signal processors to either line input of stereo channel 7~8 or line input of mono channel; connect the CD player to line input of mono or stereo channel; other stereo line signal source can be connected to line input of channel 9~10.

You can connect either an external amplifier or active speaker to the monitor output jack. Using the main output jacks on front panel, you can connect an external power amplifier to driving the 1 or 2 sub-woofers or 2 active speakers. Besides, you can connect a pair of headphone to headphone output jack. On the rear panel, there are powered mix output connectors, you can connect to these powered connectors 2 passive speakers.

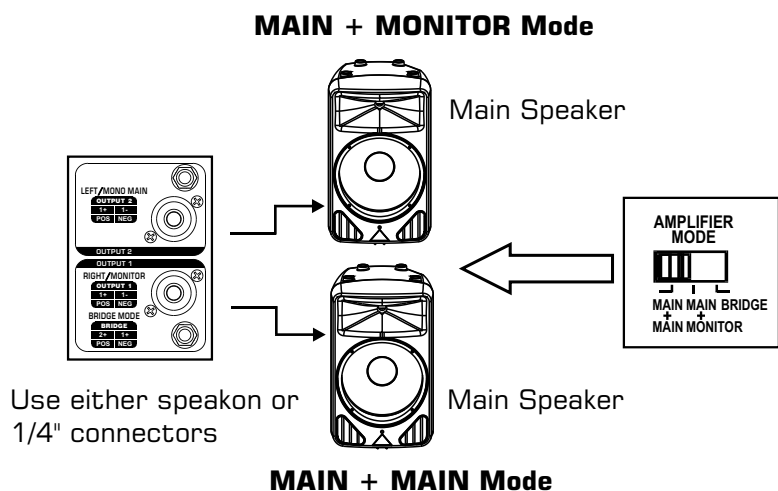
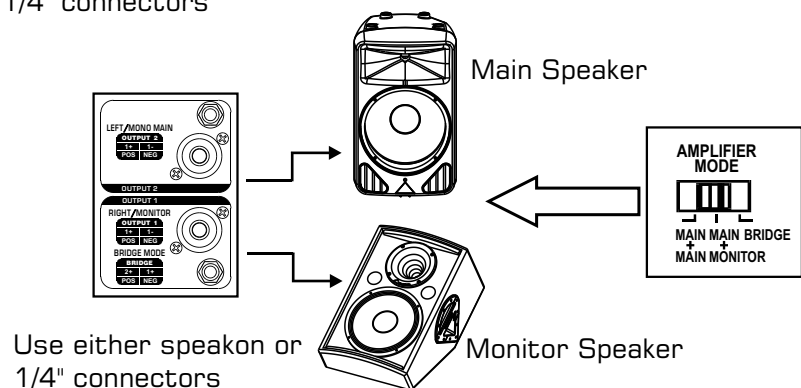
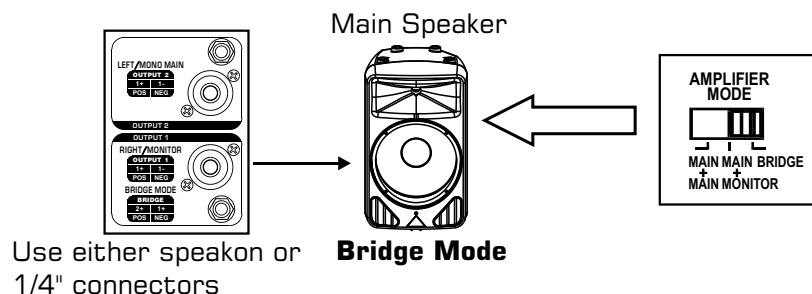
You can use the AUX1 output jack to connect a powered stage monitor, or the stage monitor external power amp.

If needed, you can also use the 2-track in/out connectors to connect the DAT or cassette for recording.



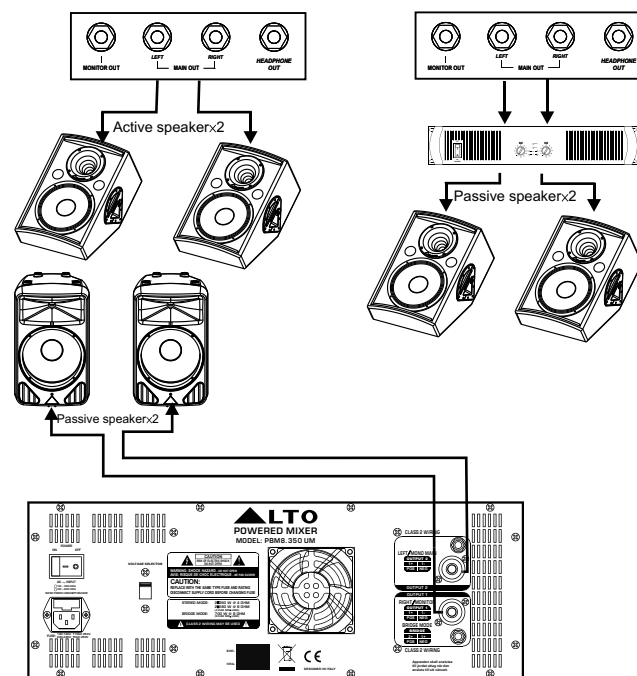
6. INSTALLATION AND CONNECTION

Here some illustrations will give you some helpful suggestions.

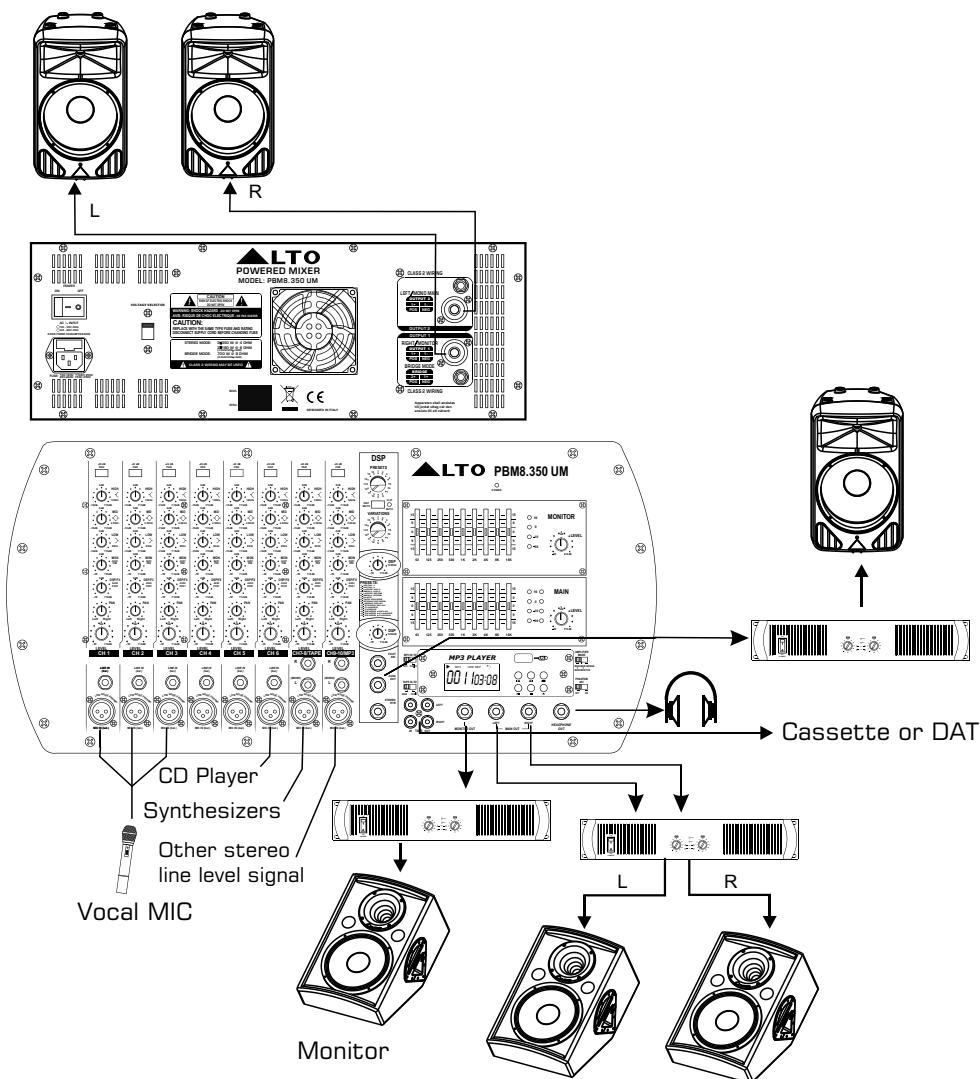


3. QUICK START

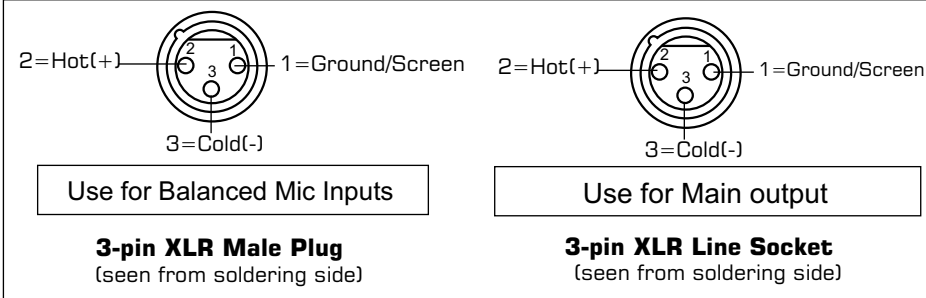
- 3.1 Please check the AC Voltage available in your country before connecting your PBM8.350 UM to the AC socket.
- 3.2 Be sure that the main power switch is turned off before connecting the powered mixer to the AC socket. Also, you should make sure that all input and output controls are turned down. This will avoid damages to your speakers as well as excessive noise.
- 3.3 Please connect a passive speaker to your PBM8.350 UM speakon connector or 1/4" jack(#35). Otherwise, you can connect a pair of active speakers directly to your PBM8.350 UM Main Out Left & Right 1/4" jacks(#18).
- 3.4 Complete these connections as illustrated.
- 3.5 When no external power amplifier or active speaker is connected to the main output L/R of your PBM8.350 UM, please switch on your PBM8.350 UM after turning on all external devices. After your live set, switch off your PBM8.350 UM before all external devices.
- 3.6 When the external power amplifier or active speaker is connected to the main output L/R of your PBM8.350 UM please switch on your PBM8.350 UM before the external power amplifier or active speaker. After your live set, switch off your PBM8.350 UM after the external power amplifier or active speaker.
- 3.7 Before disconnecting the PBM8.350 UM always turn-off the Power switch.
- 3.8 Do not use solvents to clean your PBM8.350 UM. A dry and clean cloth will be OK.



COMPUTER SET-UP DIAGRAM

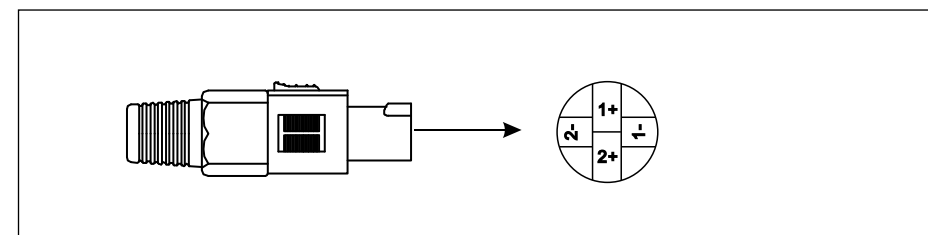


6. INSTALLATION AND CONNECTION



6.2 Main Speaker Connections

Please use only the power connectors to make connections with other signal source equipment for the passive speaker cabinets. The power connector has four terminals: 1+, 1-, 2+, 2-.



Speakon connectors

Your PBM8.350 UM features three modes for connecting the main speakers. The speaker impedance requirement varies depending on how you connect the speaker. In order to avoid damaging your PBM8.350 UM built-in amplifier, please pay more attention to the speaker impedance. Lower load impedances are not permitted. For details, please refer to next page pictures.

STEREO MODE: 2x 50 W @ 4 OHM
2x 80 W @ 8 OHM
(4 OHM MIN. LOAD)

BRIDGE MODE: 700 W @ 8 OHM
(8 OHM MIN. LOAD)

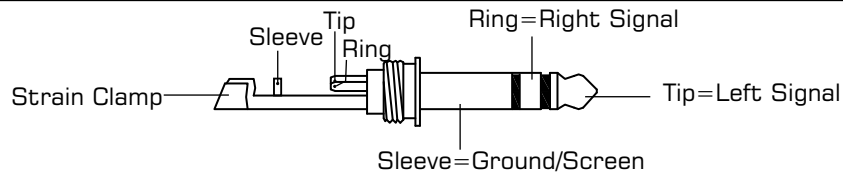


CLASS 2 WIRING MAY BE USED



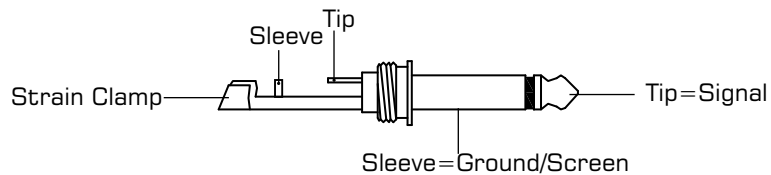


6. INSTALLATION AND CONNECTION



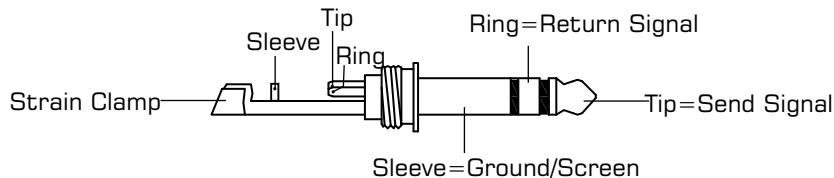
Use for Headphone

1/4" Stereo (TRS) Jack Plug



Use for Mono Line In, Mono 1/4" Jack Plugs

1/4" Mono (TS) Jack Plug



Use for Insert Points

1/4" Stereo (TRS) Jack Plug



4. CONTROL ELEMENTS

4.1 MONO/STEREO Input Channel Section

Your PBM8.350 UM comprises 6 mono input channels and 2 stereo input channels, each of them including -20dB PAD, 3-band equalizer, AUX sends, PAN and LEVEL controls. The following content will detail the each part.

1 MONO Input Channels (1 ~ 6)

CH1 through Ch6 are provided of MIC IN and LINE IN connector. Use the XLR MIC IN connector to connect low noise microphones preamp and low level signal, which also feature +48V phantom power, allowing you to connect condenser microphones. Use the 1/4" TRS LINE IN connector to connect either a microphone or a line level instrument such as synthesizers, drum machines, effects processors...

Note: You shall never connect an unbalanced microphone to the XLR connector if you do not want to damage both the microphone and the mixer.

2 STEREO Input Channels (7 ~ 10)

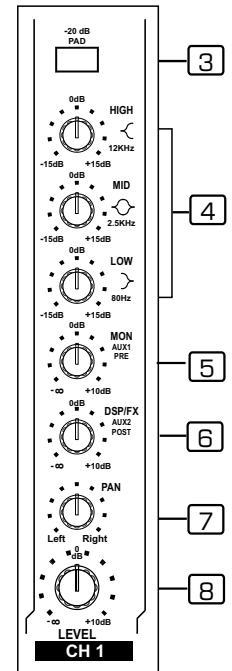
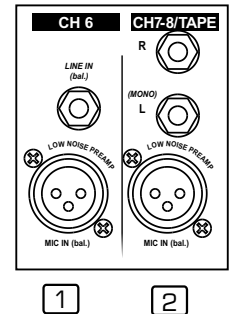
CH7 through CH10 are organised in stereo pair: Via the 1/4" TRS input connectors, you can connect the outputs from stereo devices such as synthesizers, effects processor or any stereo line level signal. If only the left jack was connected, the input will operate in mono mode. Via the XLR MIC IN connector, you can connect the low level sources.

3 -20dB PAD Button

Pressing this button will attenuate the input signal by 20dB. In such way you can produce increased headroom and reduce the risk of distortion due to quite "hot" signals.

4 EQUALIZER

Your PBM8.350 UM features a 3-band equalizer allowing you to adjust the high, mid and low frequencies separately on each channel. All bands provide a boost or cut up to 15dB, flat at the center detent.





4. CONTROL ELEMENTS

HIGH

This is the treble control. You can use it to get rid of high frequency noises or to boost the sound of cymbals or the high harmonics of the human voice.

MID

This is the midrange control. It affects most fundamental frequencies of all musical instruments and human voice. An attentive use of this control will give you a very wide panorama of sound effects.

LOW

This is the bass control. It is used to boost male voice, kickdrum and bass guitar. Your system will sound much bigger than what it is.

5 MON (AUX1) Control

Your PBM8.350 UM has two auxiliary sends which can be used for sending signals to external or internal effects device or for creating a monitor mix, these sends are used to adjust the level of respective channel signal sent to AUX bus, and the adjustable range goes from $-\infty$ to +10dB. The AUX1 control is configured as PRE-FADER, which means that the signal is sent out before reaching the channel fader. It is used for a stage monitor mix in a live set, or for a headphone mix in recording application.

6 DSP/FX (AUX2) Control

The AUX2 control is configured as POST-FADER, so the AUX send level will be affected by channel fader. Via the AUX2 OUT jack, the AUX2 signal can be sent to an external effects device, furthermore, the AUX2 signal can also be assigned to internal onboard effect module.

7 PAN Control

Abbreviation of PANORAMA control for mono and stereo channels. It is used to determine the amount of channel signal sent to main mix left and right outputs. Keeping this control in center position, the signal will be positioned in middle of "stereo field". Turn this control fully counterclockwise, the signal will be present only on the left of main mix and vice-versa.

8 Channel LEVEL Control

This control is used to adjust the overall level of respective channel. The adjustable range goes from $-\infty$ to +10dB.

4.2 MASTER SECTION Controls



6. INSTALLATION AND CONNECTION

Ok, you have got to this point and you are now in the position to successfully operate your PBM8.350 UM. However, we advise you to read carefully the following section to be the real master of your own mix. Not paying attention enough to the input signal level, to the routing of the signal and the assignment of the signal will result in unwanted distortion, a corrupt signal or no sound at all. So you should follow this procedure for every single channel:

- Turn down all Input and output controls.
- Connect phantom powered microphones before switching on the +48Volt phantom power switch.
- Set the output level of your PBM8.350 UM or the connected power amplifier at no more than 75%.
- Now, set the MONITOR level at no more than 50%. In this way you should monitor your mix, connecting a pair of headphones or a pair of powered studio monitor speakers.
- Position EQ controls on middle position.
- Position panoramic (PAN) control on center position.
- Properly increase the input gain for maintaining a good headphone and ideal dynamic range.
- Depending on the actual application, turn slowly the input and output level controls for obtaining the maximum gain before distortion.
- Now repeat the same sequence for all input channels. The main LED meter could move up into the red section. In this case you can adjust the overall output level through the MAIN MIX control.

6.1 Audio Connections

You can connect unbalanced equipment to balanced inputs and outputs. Simply follow these schematics.

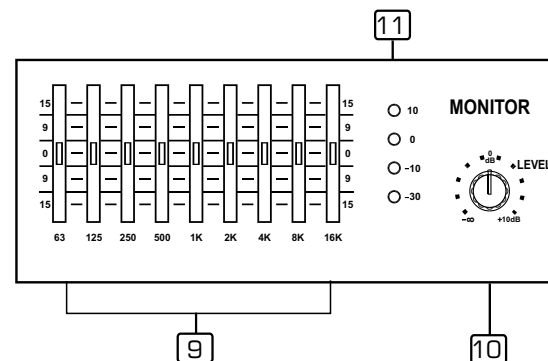


5. PRESET LIST

No.	Preset	Description	Controllable parameter	
			Parameter	Variable range
1	VOCAL 1	Simulate a room with small delay time.	Decay time Pre-delay	0.8~1.1s 0~79ms
2	VOCAL 2	Simulate a small space with slight decay time.	Decay time Pre-delay	0.8~2.5s 0~79ms
3	LARGE HALL	Simulate a large acoustic space of the sound.	Decay time Pre-delay	3.6~5.4s 23~55ms
4	SMALL HALL	Simulate a small acoustic space of the sound.	Decay time Pre-delay	1.0~2.9s 20~45ms
5	LARGE ROOM	Simulate a studio room with many early reflections.	Decay time Pre-delay	2.9~4.5s 23~55ms
6	SMALL ROOM	Simulate a bright studio room.	Decay time Pre-delay	0.7~2.1s 20~45ms
7	PLATE	Simulate the transducers sound like classic bright vocal plate.	Decay time Pre-delay	0.6~6.1s 10ms
8	TAPE REVERB	Simulate a record head and multiple playback heads at intervals along the tape.	Decay time Pre-delay	1.3~5.4s 0~84ms
9	SPRING REVERB	Simulate the analog transducers' springs lightly stretched sound.	Decay time Pre-delay	1.3~5.4s 0~35ms
10	MONO DELAY	Reproduce the sound input on the output after a lapse of time.	Period	60~650ms
11	STEREO DELAY	Recreate the input sound on the stereo output with different time.	Period Feedback	210~400ms 37~73%
12	FLANGER	Simulate to play with another person carrying out the same notes on the same instrument	Rate	0.16~2.79Hz
13	CHORUS	Recreate the illusion of more than one instrument from a single instrument sound	Rate	0.5~5Hz
14	REV.+DELAY	Delay with room effect	Delay period Rev. decay time	211~375ms 1.0~2.9s
15	REV.+FLANGER	Stereo chorus and large room reverb	Flanger Rate Rev. decay time	0.16~2.52Hz 1.5~2.9s
16	REV.+CHORUS	Simulate the sound effect achieved by rotating horn speakers and a bass cylinder	Chorus rate Rev. decay time	0.5~4.74Hz 1.5~2.9s



4. CONTROL ELEMENTS



9 STEREO GRAPHIC EQ

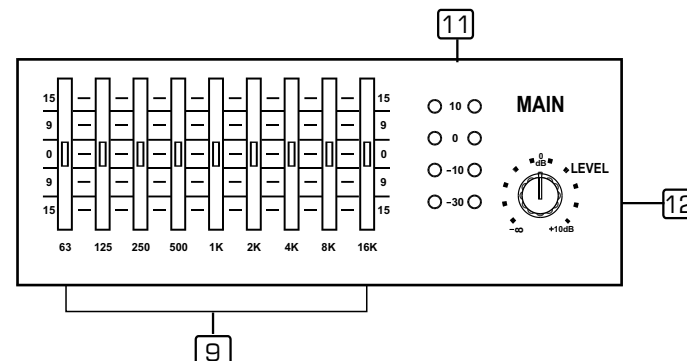
Your PBM8.350 UM is equipped with a stereo graphic EQ for MAIN MIX, and a mono EQ for MONITOR MIX. Each EQ provides 9-band fader controls. Via these faders, you can boost/attenuate the selected frequency up to 15dB at a preset bandwidth. When all faders are at the center position, the equalizer output is flat response. They are used to modify the frequency "contour" of a sound. Since there is no bypass switch, the EQ function will be activated as soon as you turn on your PBM8.350 UM.

10 MONITOR LEVEL Control

This control is used to adjust the level of monitor output.

11 MONITOR LEVEL LED Display

This 4 segments LED display shows the monitor output level.



12 MAIN MIX LEVEL Control

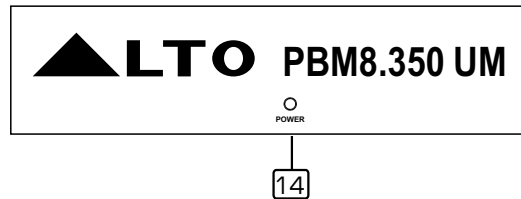
This control is used to adjust the overall volume of main mix output.



4. CONTROL ELEMENTS

13 MAIN MIX LEVEL LED Display

The stereo 4 segments LED display is used to monitor the main mix output level.

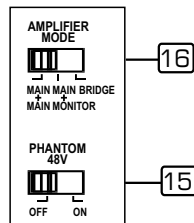


14 POWER LED Display

The LED indicates that your PBM8.350 UM is turned on.

15 PHANTOM 48V Switch

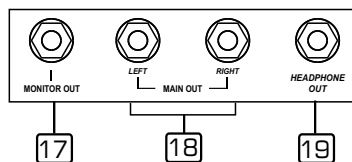
It is available only to the XLR MIC sockets. Never plug in a microphone when phantom power is already on. Before turning phantom power on, make sure that all faders are all the way down. In this way you will protect your stage monitors and main loudspeakers. Pushing the switch to right will apply +48V phantom power only to the 8 XLR microphone inputs.



16 AMPLIFIER MODE Switch

This switch provides three modes: MAIN/MAIN; MAIN/MONITOR; BRIDGE. Select any one of these modes to specify the signals to be routed to the corresponding jacks according to the speaker connection at speaker jacks on the rear panel. The details refer to later content.

4.3 MASTER SECTION INPUT and OUTPUT 1/4" Jacks



17 MONITOR OUT Jack

Use the balanced MONITOR jack to connect the input of external monitor amplifier or active monitor speaker.

18 MAIN OUT Jacks

Both jacks are used to output the main mix signal to an external amplifier or active speaker.



4. CONTROL ELEMENTS

41 PLAY/PAUSE

In play state, press PLAY/PAUSE button to pause the player. In pause state, press PLAY/PAUSE button to start playing.

42 STOP

In play state, press STOP button to stop playing and the whole quantity of Mp3 songs in the USB memory will display on the screen. In STOP state, press the PRE/NEXT button or press the STOP button again to go to the first songs and the player will keep in pause state, then press down the PLAY/PAUSE button to play it.

43 POWER

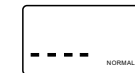
When the unit is off, press this button and hold for about 2 or 3 seconds to turn on the power supply of the player. Repeat the above operation, you can turn off the power supply of the player.

NOTE: Basic interface instruction.

When the player isn't connected to a USB memory equipment, the interface is as follows:



When the player is searching for Mp3 songs, the interface is as follows:



When the player is in pause state, the interface is as follows:



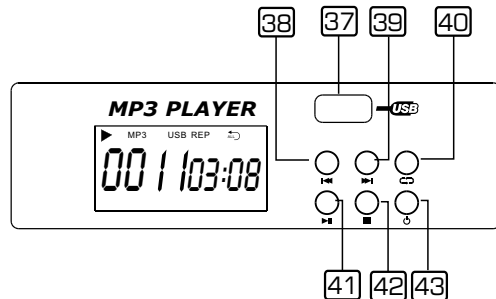
When the player is in use, the interface is as follows:





4. CONTROL ELEMENTS

4.6 MP3 Section



The file system of USB memory for USB-MP3 player is FAT16 and FAT32. The player can only decode MP3. It can have 7 rank subordinate folders at most, and the maximum quantity of folders within MP3 files is 24. In the whole USB memory, the total folders can not be beyond 256 (including those folders without MP3 songs).

37 USB PORT

For connecting with USB memory.

38 PRE

In pause state, press this button it will go to the previous song and keep in pause state. In play state, press this button it will go to the previous song and start playing.

39 NEXT

In pause state, press this button it will go to the previous song and keep in pause state. In play state, press this button, it will go to the previous song and start playing.

40 REPEAT

Press this button the player will change between the following four modes. REP ALL means to repeat all songs in the memory, the mark on the screen is . REP1 means to repeat one song, the mark on the screen is . Play in order means to play the songs according to the order, the mark on the screen is blank. Random play means to play the songs at random, the mark on the screen is A.



4. CONTROL ELEMENTS

19 HEADPHONE OUT Jack

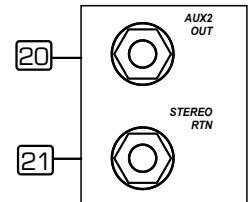
This is a stereo phone type output jack, it is used to send out the monitor signal to a pair of headphones.

20 AUX2 OUT Jack

The phone jack is used to output the line level signal of AUX2 bus. Generally, it is used to connect external effects unit, but it should be used for stage monitors too.

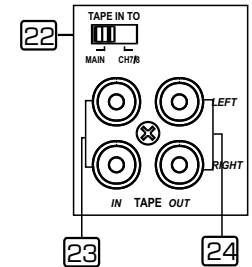
21 STEREO RTN. Jack

Use the stereo phone jack to return the sound of an effect unit to the main mix. You can also use it as an extra auxiliary stereo input.



22 TAPE IN TO Select Switch

Pushing this switch to right will route the signal from TAPE IN to CH7~8 path, and the signal will be affected by channel level control and main level control, while to left will route the signal to main mix bus, the signal will be affected only by main level control.

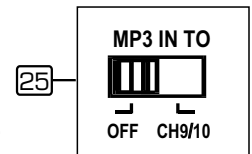


23 2-TRACK IN

Your PBM8.350 UM features dual RCA jacks for 2-track in (left and right). If you wish to listen to your mix from a tape recorder, DAT or cassette, please use these tape input jacks. Depending on the setting of TAPE TO select switch, you can assign the signal from the tape recorder (DAT or cassette), as well as a CD player to CH7~8 path or main mix bus.

24 2-TRACK OUT

Your PBM8.350 UM features dual RCA jacks for 2-track out (left and right). Via these jacks, you can route the main mix signal into a tape recorder or DAT for recording.



25 MP3 IN TO Select Switch

Pushing this switch to right will route the signal from MP3 IN to CH9~10 path, MIC and LINE of CH9~10 path are disconnected, and the signal will be affected by channel level control and main level control, while to left will disconnect the signal of MP3 IN to CH9~10 path, MIC and LINE input of CH9~10 path are connected.



4. CONTROL ELEMENTS

4.4 DSP Section

PBM8.350 UM features 256 position effects, for details, please refer to following content.

26 PRESETS Control

Adjust this knob to select the effect you wish to perform. There are 16 options available: several kinds of reverb, mono and stereo delay, modulation effects, and versatile two-effect combination.

27 VARIATIONS Control

Since you have selected the needed effect, please go ahead with the fine consideration, there are also 16 variations for each preset, and each variation has been designed modifying several parameters.

28 DSP MUTE Switch

This switch is used to activate/deactivate the effect facility. For convenient operation, you can also use the following FOOT SW jack.

29 CLIP/MUTE LED

This LED lights up when the input signal is too strong or in case of the digital effect module being muted.

30 DSP TO MON Control

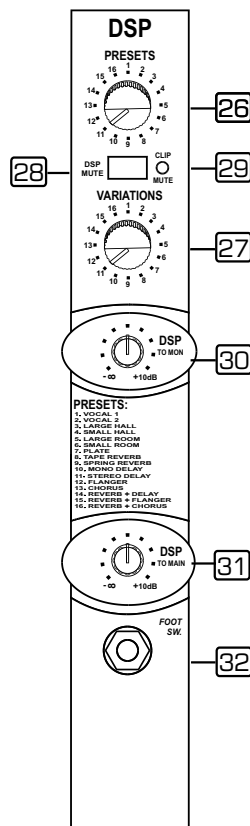
This control is used to control the volume of effect signal sent to monitor mix, which can be varied from $-\infty$ to +10dB.

31 DSP TO MAIN Control

This control is used to control the volume of effect signal sent to main mix bus, which can be varied from $-\infty$ to +10dB.

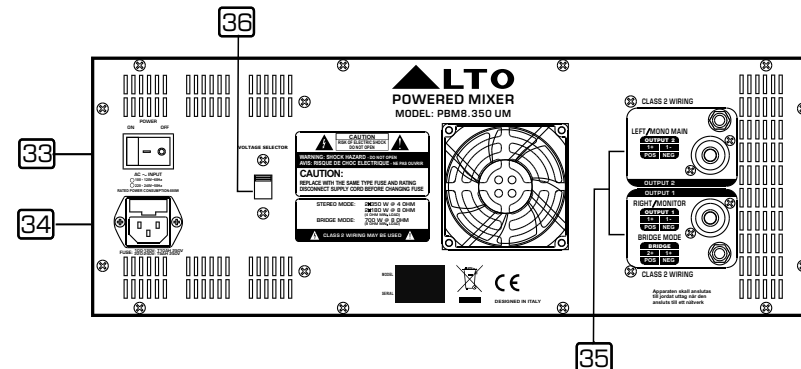
32 FOOT SW. Jack

To this 1/4" jack, you can connect an external footswitch to turn on/off the onboard effect module.



4. CONTROL ELEMENTS

4.5 Rear Panel



33 POWER ON/OFF Switch

This switch is used to turn the main power ON and OFF.

34 AC Inlet with FUSE Holder

Use it to connect your PBM8.350 UM to the main AC with the supplied AC cord. Please check the voltage available in your country and how the voltage for your PBM8.350 UM is configured before attempting to connect your PBM8.350 UM to the main AC.

35 SPEAKERS Jacks

These jacks are used to connect speakers. They are configured with 4-way speaker connectors and 1/4" phone jacks. You can determine the signal that is output to these jacks according to the setting of AMPLIFIER MODE select switch.

Note: In order to avoid damaging your PBM8.350 UM built-in amplifier, please pay more attention to the speaker impedance. Lower load impedances are not permitted.

36 AC Select Switch

This switch has two choices for voltage, 115 VAC or 230 VAC.

Note: If you want to switch the voltage, remove the cover plate with a screwdriver and set the switch to the 115 VAC or 230VAC as the actual requirement. Refer to the specification page 20 for instructions of replacing fuse.